

0590
1023

#8

OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/821,877

DATE: 10/10/2001

TIME: 11:25:50

Input Set : A:\6794usol.txt

Output Set: N:\CRF3\10102001\I821877.raw

ENTERED

C-->

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4 <110> APPLICANT: Abbott Laboratories
5     Coleman, Paul F.
6     Mushahwar, Isa K.
8 <120> TITLE OF INVENTION: Hepatitis B Virus Surface Antigen Mutant
9     And Methods Of Detection Thereof
12 <130> FILE REFERENCE: 6794.US.O1
14 <140> CURRENT APPLICATION NUMBER: 09/821,877
15 <141> CURRENT FILING DATE: 2000-03-03
17 <160> NUMBER OF SEQ ID NOS: 8
19 <170> SOFTWARE: FastSEQ for Windows Version 4.0
21 <210> SEQ ID NO: 1
22 <211> LENGTH: 1181
23 <212> TYPE: DNA
24 <213> ORGANISM: Hepatitis B Virus
26 <400> SEQUENCE: 1
27 atggggcaga atctttccac cagcaatcct ctgggattct ttcccagacca ccagttggat      60
28 ccagccttca gagcaaacac caacaatcca gattgggact tcaatcccaa caaggacacc      120
29 tggccagacg ccaacaagggt aggagctgga gcattcggac tgggggttcac cccaccgcac      180
30 ggaggccttt tgggggtggag ccctcaggct cagggcataa cacaacctt gccagcaaat      240
31 ccgcctcctg ctccacacaa tcgccagtca ggaaggcagc ctaccccgct gtctccacct      300
32 ttgagaaaca ctcatcctca agccatgcag tggaaactcca caactttcca ccaaactctg      360
33 caagatccca gagtgagagg tctgtatttc cctgctggtg gctccagttc aggaacagta      420
34 aacctgttgc cgactactgt ctctcccata tcgtcaatct tctcgaggat tggggaccct      480
35 gcgcggaaca tggagaacat cacatcagga ttcttaggac ccctgctcgt gttacaggcg      540
36 gggtttttct tgttgacaag aatcctcaca ataccgcaga gtctagactc gtggtggact      600
37 tctotcaatt ttctaggggg aa'ctaccgtg tgtcttggcc aaaattcgca gtccccaacc      660
38 tccaatcact caccaacctc ctgtcctcca acttgctcctg gttatcgctg gatgtgtctg      720
39 cggcgtttta tcatcttctt ctctatcctg ctgctatgcc tcatcttctt gttggttctt      780
40 ctggactatc aagggtatgtt gcccgtttgt cctctaattc caggatcttc aaccaccagc      840
41 acgggaccat gcagagcctg cagcactcct gctcaaggaa cctctatgta tccctcctgt      900
42 tgctgtacaa aaccttcgga tggaaactgc acctgtattc ccatcccatc atcctgggct      960
43 ttcggaanaa tcctatggga gtgggcctca gcccgtttct cctgggtcag tttactagtg      1020
44 ccatttggtc agtggttcgt agggctttcc cccactgttt ggctttcagt tatatggatg      1080
45 atgttgtaact gggggccaag tctgtacacc atcttgagtc cctttttacc gctgttacca      1140
46 attttctttt gtctttgggt atacatttaa accctaataa a                                1181
48 <210> SEQ ID NO: 2
49 <211> LENGTH: 389
50 <212> TYPE: PRT
51 <213> ORGANISM: Hepatitis B Virus
53 <400> SEQUENCE: 2
54 Met Gly Gln Asn Leu Ser Thr Ser Asn Pro Leu Gly Phe Phe Pro Asp
55 1         5         10        15
56 His Gln Leu Asp Pro Ala Phe Arg Ala Asn Thr Asn Asn Pro Asp Trp
57         20        25        30
58 Asp Phe Asn Pro Asn Lys Asp Thr Trp Pro Asp Ala Asn Lys Val Gly
59         35        40        45
60 Ala Gly Ala Phe Gly Leu Gly Phe Thr Pro Pro His Gly Gly Leu Leu

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61      50      55      60
62 Gly Trp Ser Pro Gln Ala Gln Gly Ile Thr Gln Thr Leu Pro Ala Asn
63 65      70      75      80
64 Pro Pro Pro Ala Ser Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro
65      85      90      95
66 Leu Ser Pro Pro Leu Arg Asn Thr His Pro Gln Ala Met Gln Trp Asn
67      100     105     110
68 Ser Thr Thr Phe His Gln Thr Leu Gln Asp Pro Arg Val Arg Gly Leu
69      115     120     125
70 Tyr Phe Pro Ala Gly Gly Ser Ser Ser Gly Thr Val Asn Pro Val Pro
71      130     135     140
72 Thr Thr Val Ser Pro Ile Ser Ser Ile Phe Ser Arg Ile Gly Asp Pro
73 145     150     155     160
74 Ala Arg Asn Met Glu Asn Ile Thr Ser Gly Phe Leu Gly Pro Leu Leu
75      165     170     175
76 Val Leu Gln Ala Gly Phe Phe Leu Leu Thr Arg Ile Leu Thr Ile Pro
77      180     185     190
78 Gln Ser Leu Asp Ser Trp Trp Thr Ser Leu Asn Phe Leu Gly Gly Thr
79      195     200     205
80 Thr Val Cys Leu Gly Gln Asn Ser Gln Ser Pro Thr Ser Asn His Ser
81      210     215     220
82 Pro Thr Ser Cys Pro Pro Thr Cys Pro Gly Tyr Arg Trp Met Cys Leu
83 225     230     235     240
84 Arg Arg Phe Ile Ile Phe Leu Phe Ile Leu Leu Leu Cys Leu Ile Phe
85      245     250     255
86 Leu Leu Val Leu Leu Asp Tyr Gln Gly Met Leu Pro Val Cys Pro Leu
87      260     265     270
88 Ile Pro Gly Ser Ser Thr Thr Ser Thr Gly Pro Cys Arg Ala Cys Thr
89      275     280     285
90 Thr Pro Ala Gln Gly Thr Ser Met Tyr Pro Ser Cys Cys Cys Thr Lys
91      290     295     300
92 Pro Ser Asp Gly Asn Cys Thr Cys Ile Pro Ile Pro Ser Ser Trp Ala
93 305     310     315     320
94 Phe Gly Lys Phe Leu Trp Glu Trp Ala Ser Ala Arg Phe Ser Trp Leu
95      325     330     335
96 Ser Leu Leu Val Pro Phe Val Gln Trp Phe Val Gly Leu Ser Pro Thr
97      340     345     350
98 Val Trp Leu Ser Val Ile Trp Met Met Leu Tyr Trp Gly Pro Ser Leu
99      355     360     365
100 Tyr Thr Ile Leu Ser Pro Phe Leu Pro Leu Leu Pro Ile Phe Phe Cys
101      370     375     380
102 Leu Trp Val Tyr Ile
103 385
105 <210> SEQ ID NO: 3
106 <211> LENGTH: 681
107 <212> TYPE: DNA
108 <213> ORGANISM: Hepatitis B Virus
110 <400> SEQUENCE: 3
111 atggagaaca tcacatcagg attcctagga cccctgctcg tggttacaggc ggggtttttc

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60

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```

112 tgggttgacaa gaatcctcac aatacgcag agtctagact cgtggtggac ttctctcaat      120
113 ttcttagggg gaactaccgt gtgtcttggc caaaattcgc agtccccaac ctccaatcac      180
114 tcaccaacct cctgtcctcc aacttgctct gggttatcgt ggatgtgtct gcggcggttt      240
115 atcatcttcc tcttcactcc gctgctatgc ctcatcttct tgttggttct tctggactat      300
116 caaggatagt tgcccgtttg tctctaat ccaggatcat caaccaccag cacgggaccc      360
117 tgcagaacct gcacgactcc tgetcaagga acctctatgt atccctcctg ttgctgtaca      420
118 aaaccttcgg atggaaactg cacctgtatt cccatcccat catcctgggc ttctggaaaa      480
119 ttctatggg agtgggcctc agcccgtttc tcttggtcca gtttactagt gccatttgtt      540
120 cagtgggtcg tagggctttc cccactgtt tggctttcag ttatatggat gatgtggtat      600
121 tgggggcca gtctgtacag catcttgagt ccctttttac cgtgtttacc aattttcttt      660
122 tgtctttggg tatacattta a                                     681
124 <210> SEQ ID NO: 4
125 <211> LENGTH: 182
126 <212> TYPE: DNA
127 <213> ORGANISM: Hepatitis B Virus
129 <220> FEATURE:
130 <223> OTHER INFORMATION: "a" Determinant for the Hepatitis B Virus Strain
132 <400> SEQUENCE: 4
133 tatcaaggta tgttgccgt ttgtcctcta attccaggat cttcaaccac cagcacggga      60
134 ccatgcagac ctgcacgact cctgctcaag gaacctctat gtatccctcc tgttgctgta      120
135 caaaccttc ggatggaaac tgcacctgta ttcccatccc atcatcctgg gctttcgaa      180
136 aa                                                         182
138 <210> SEQ ID NO: 5
139 <211> LENGTH: 61
140 <212> TYPE: PRT
141 <213> ORGANISM: Hepatitis B Virus
143 <220> FEATURE:
144 <223> OTHER INFORMATION: "a" Determinant for the mutant Hepatitis B Virus
145 strain
147 <400> SEQUENCE: 5
148 Tyr Gln Gly Met Leu Pro Val Cys Pro Leu Ile Pro Gly Ser Ser Thr
149 1          5          10          15
150 Thr Ser Thr Gly Pro Cys Arg Ala Cys Thr Thr Pro Ala Gln Gly Thr
151          20          25          30
152 Ser Met Tyr Pro Ser Cys Cys Cys Thr Lys Pro Ser Asp Gly Asn Cys
153          35          40          45
154 Thr Cys Ile Pro Ile Pro Ser Ser Trp Ala Phe Gly Lys
155          50          55          60
157 <210> SEQ ID NO: 6
158 <211> LENGTH: 690
159 <212> TYPE: DNA
160 <213> ORGANISM: Hepatitis B Virus
162 <220> FEATURE:
163 <223> OTHER INFORMATION: Mutant Hepatitis B Virus Strain
165 <400> SEQUENCE: 6
166 gcgcggaaca tggagaacat cacatcagga ttctaggac ccctgctcgt gttacaggcg      60
167 gggtttttct tgttgacaag aatcctcaca ataccgcaga gtctagactc gtggtggact      120
168 tctctcaatt ttctaggggg aactaccgtg tgtcttggcc aaaattcgca gtccccaacc      180
169 tccaatcact caccaacctc ctgtcctcca acttgctcgt gttatcgctg gatgtgtctg      240

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Input Set : A:\6794usol.txt

Output Set: N:\CRF3\10102001\I821877.raw

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170 cggcggtttta tcatcttctt cttcatcctg ctgctatgcc tcatcttctt gttggttctt 300
171 ctggactatc aaggatatgt gcccgtttgt cctctaattc caggatcttc aaccaccagc 360
172 acgggaccat gcagagcctg cacgactcct gctcaaggaa cctctatgta tccctcctgt 420
173 tgctgtacaa aaccttcgga tggaaactgc acctgtattc ccatcccatc atcctgggct 480
174 ttcggaataa tcctatggga gtgggcctca gcccgtttct cctgggtcag ttactagt 540
175 ccatttggtc agtgggtcgt agggctttcc cccactgttt ggctttcagt tatatggatg 600
176 atgtgtact gggggccaag tctgtacacc atcttgagtc cctttttacc gctgttacca 660
177 attttctttt gtctttgggt atacatttaa 690

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179 <210> SEQ ID NO: 7

180 <211> LENGTH: 690

181 <212> TYPE: DNA

182 <213> ORGANISM: Hepatitis B Virus

184 <400> SEQUENCE: 7

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185 gcgctgaaca tggagaacat cacatcagga ttctaggac cctgctcgt gttacaggcg 60
186 ggggttttct tgttgacaag aatcctcaca ataccgcaga gtctagactc gtgggtggact 120
187 tctctcaatt ttctaggggg aactaccgtg tgtcttgccc aaaattcgca gtccccaacc 180
188 tccaatcact caccaacctc ctgtcctcca acttgctcgt gttatcgtg gatgtgtctg 240
189 cggcggtttta tcatcttctt cttcatcctg ctgctatgcc tcatcttctt gttggttctt 300
190 ctggactatc aaggatatgt gcccgtttgt cctctaattc caggatcttc aaccaccagc 360
191 acgggaccct gcaggacctg cacgactcct gctcaaggaa cctctatgta tccctcctgt 420
192 tgctgtacaa aaccttcgga tggaaactgc acctgtattc ccatcccatc atcctgggct 480
193 ttcggaataa tcctatggga gtgggcctca gcccgtttct cctgggtcag ttactagt 540
194 ccatttggtc agtgggtcgt agggctttcc cccactgttt ggctttcagt tatatggatg 600
195 atgtgtgatt gggggccaag tctgtacagc atcttgagtc cctttttacc gctgttacca 660
196 attttctttt gtctttgggt atacatttaa 690

```

198 <210> SEQ ID NO: 8

199 <211> LENGTH: 229

200 <212> TYPE: PRT

201 <213> ORGANISM: Hepatitis B Virus

203 <220> FEATURE:

204 <221> NAME/KEY: VARIANT

205 <222> LOCATION: (126)...(126)

206 <223> OTHER INFORMATION: Xaa = A or T at position 126

208 <221> NAME/KEY: VARIANT

209 <222> LOCATION: (202)...(202)

210 <223> OTHER INFORMATION: Xaa = L or W at position 202

212 <221> NAME/KEY: VARIANT

213 <222> LOCATION: (210)...(210)

214 <223> OTHER INFORMATION: Xaa = T or S at position 210

216 <400> SEQUENCE: 8

```

217 Ala Arg Asn Met Glu Asn Ile Thr Ser Gly Phe Leu Gly Pro Leu Leu
218 1 5 10 15
219 Val Leu Gln Ala Gly Phe Phe Leu Leu Thr Arg Ile Leu Thr Ile Pro
220 20 25 30
221 Gln Ser Leu Asp Ser Trp Trp Thr Ser Leu Asn Phe Leu Gly Gly Thr
222 35 40 45
223 Thr Val Cys Leu Gly Gln Asn Ser Gln Ser Pro Thr Ser Asn His Ser
224 50 55 60
225 Pro Thr Ser Cys Pro Pro Thr Cys Pro Gly Tyr Arg Trp Met Cys Leu

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TIME: 11:25:50

Input Set : A:\6794usol.txt

Output Set: N:\CRF3\10102001\I821877.raw

```

226 65              70              75              80
227 Arg Arg Phe Ile Ile Phe Leu Phe Ile Leu Leu Leu Cys Leu Ile Phe
228              85              90              95
229 Leu Leu Val Leu Leu Asp Tyr Gln Gly Met Leu Pro Val Cys Pro Leu
230              100             105             110
W--> 231 Ile Pro Gly Ser Ser Thr Thr Ser Thr Gly Pro Cys Arg Xaa Cys Thr
232              115             120             125
233 Thr Pro Ala Gln Gly Thr Ser Met Tyr Pro Ser Cys Cys Cys Thr Lys
234              130             135             140
235 Pro Ser Asp Gly Asn Cys Thr Cys Ile Pro Ile Pro Ser Ser Trp Ala
236 145             150             155             160
237 Phe Gly Lys Phe Leu Trp Glu Trp Ala Ser Ala Arg Phe Ser Trp Leu
238              165             170             175
239 Ser Leu Leu Val Pro Phe Val Gln Trp Phe Val Gly Leu Ser Pro Thr
240              180             185             190
W--> 241 Val Trp Leu Ser Val Ile Trp Met Met Xaa Tyr Trp Gly Pro Ser Leu
242              195             200             205
W--> 243 Tyr Xaa Ile Leu Ser Pro Phe Leu Pro Leu Leu Pro Ile Phe Phe Cys
244              210             215             220
245 Leu Trp Val Tyr Ile
246 225

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VERIFICATION SUMMARY

DATE: 10/10/2001

PATENT APPLICATION: US/09/821,877

TIME: 11:25:51

Input Set : A:\6794usol.txt

Output Set: N:\CRF3\10102001\I821877.raw

L:15 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:231 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8

L:241 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8

L:243 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8